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| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER | | | | |
| NGUYEN, VU ANH | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1796 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/563,430

Applicant(s)

BECKER ET AL.

Examiner

Vu Nguyen

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 03/31/2008.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Each of these claims recites "The **polymer** as claimed in claim..., wherein the weight average molecular weight of the **polymers** is..." It is unclear why a molecular weight of multiple polymers is recited while the independent claim does not recite more than one polymer.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

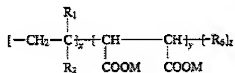
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Anchor et al. (US 5,478,883).
6. Corresponding to the limitations set forth in these claims, Anchor et al. teaches a water-dispersible copolymer comprising an N-(PPO-PEO)diallylamine, styrene, butyl

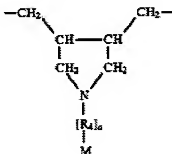
acrylate, and methacrylic acid (Example 1). Some of the diallylamine groups (in the resulting polymer) is inherently in quaternized form (i.e., protonated) since the pH after the polymerization is 2.5 (col. 9, line 8). The number of the PO repeating units is 20-40 and that of EO is 60-80 (col. 2, lines 37-40).

7. Claims 1-3, 6, 8, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Gopalkrishnan et al. (US 5,733,861).

8. Corresponding to the limitations set forth in these claims, Gopalkrishnan et al. (Gopalkrishnan, hereafter) teaches a hydrophilic copolymer for reducing the viscosity of detergent slurries, said copolymer comprising those represented by the following formula:



wherein R₁ = H or CH₃; R₂ includes COOM; M = alkaline metal or hydrogen; y goes from zero to x; (x+y):z = 5:1 to 1000:1; and R₆ is represented by the following formula:



wherein R₄ = ethylene oxide having the most preferred number of repeating unit *a* of 15 (col. 3-4). The copolymer has an M_w of 500-500,000, more preferably 1,000-100,000 (col. 4, lines 22-29). The amine of the diallylamine is inherently protonated as the polymerization reaction is done in an aqueous medium containing phosphoric acid (col. 7, line 39).

Claim Rejections - 35 USC § 102/103

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 7, 22 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gopalkrishnan et al. (US 5,733,861).

12. Regarding the limitations set forth in these claims, the claimed polymer has been shown to be anticipated by Gopalkrishnan as discussed above. The reference is silent as to a K value of the disclosed polymer. However, since K value is directly related to the molecular weight and since the disclosed polymer has similar molecular weight as

the claimed polymer, it is reasonable to expect the disclosed polymer to have a K value within the claimed range. Even if such K value is not inherent, it is still obvious to expect the disclosed polymer to have such K value due to the similarity in the polymer composition and the polymer molecular weight. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to show otherwise. (See MPEP § 2112 (I-V)).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 4-5, 14-17, 20-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gopalkrishnan et al. (US 5,733,861).

16. Regarding the limitations set forth in these claims, the polymer of claims 1-3 has been shown to be anticipated by Gopalkrishnan. As mentioned in paragraph 8 above,

the disclosed polymer has $(x+y):z = 5:1$ to $1000:1$. Moreover, y is preferably zero (col. 3, line 55). Consequently, the disclosed polymer comprises those having $x:z = 5:1$ to $1000:1$. This range overlaps the claimed range. "In the case where the claimed ranges 'overlap or lie inside ranges disclosed by the prior art' a *prima facie* case of obviousness exists." (MPEP § 2144.05 (I)). Moreover, since the "oxyethylated moiety...has extensive solubility in water," (col. 4, lines 35-39), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have increased the ratio of the ethoxylated diallylamine to the (meth)acrylic acid in order to further increase the solubility of the polymer in an aqueous medium.

17. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gopalkrishnan et al. (US 5,733,861) in view of Hirata et al. (EP 1,118,598).

18. Regarding the limitations set forth in this claim, the polymer of claim 1 has been shown to be anticipated by Gopalkrishnan as discussed above. It is also disclosed that, unlike other polymeric dispersants that serve merely as dispersants without reducing the viscosity, the disclosed polymers not only serve as effective "stabilizers for the preparation of concentrated built structured liquid detergents" but also that, when a small amount of the polymers is incorporated in a slurry composition, the viscosity of the slurry decreases two to three orders of magnitude (col. 2, lines 1-22). However, Gopalkrishnan fails to teach a mineral building material comprising cement, water, and the disclosed polymers.

19. Hirata et al. (Hirata, hereafter) teaches a cement dispersant and cement composition. The dispersant comprises a polycarboxylic acid having a polyalkylene glycol at a side chain (Claim 1). The cement composition, being a cement water slurry, comprises cement, water, the dispersant [0044], and additives [0039-0040]. Hirata is directed to a cement dispersant that has high water reduction [0045].

20. Considering the objective being sought in Hirata and the effectiveness of the dispersant taught by Gopalkrishnan (i.e., only a small amount is needed to stabilize an aqueous slurry with good flow), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have replaced the dispersant taught by Hirata with the polymers taught by Gopalkrishnan so that the cement slurry can be stabilized with only a small amount of the dispersant and any increase in the viscosity can be suppressed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vu Nguyen
Examiner
Art Unit 1796

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796